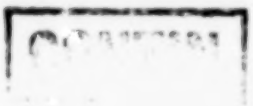
NAS1.53/3:96-OSS-04/APP.A-E

National Aeronautics
and Space Administration

February 26, 1996
NRA 96-OSS-04

RESEARCH ANNOUNCEMENT



ULTRAVIOLET, VISIBLE, AND GRAVITATIONAL ASTROPHYSICS

RESEARCH AND ANALYSIS PROGRAM

Appendices A Through E

Letters of Intent Due: March 29, 1996

Proposals Due: June 7, 1996

9a 0830-H-05 96-015809

THE ULTRAVIOLET, VISIBLE, AND GRAVITATIONAL ASTROPHYSICS RESEARCH AND ANALYSIS PROGRAM

I. SCOPE

This program is intended to provide basic support for NASA's Ultraviolet (UV), Visible, and Gravitational Astrophysics related missions. In addition to the basic scientific merit of the proposed research, the relevance to these missions will be a significant factor in the proposal evaluation. Proposals are solicited for investigations of astrophysical phenomena as expressed in the wavelength range of roughly 100 Angstroms to Hα and for investigations of the physics of gravitation and general relativity (gravitational physics and general relativity investigations must also have a direct bearing on NASA missions). Proposed research is expected to involve laboratory UV astrophysics, studies of supporting UV technology and techniques, or studies of relativity or gravitational physics. Note that proposed research containing theoretical UV astrophysical studies must be submitted to NASA's Astrophysical Theory Program and will not be considered under this NRA.

Proposals for ground-based investigations will be considered only if:

(a) they are in direct support of NASA UV/Visible Branch-related missions (for example, the calibration of the Hubble Space Telescope or the Extreme Ultraviolet Explorer), **and**

(b) the proposers are ineligible by virtue of their institutional affiliation to receive direct or indirect support from the National Science Foundation for ground-based astronomy.

A compilation of relevant NASA missions and collaborative international programs pertinent to this NRA is given in Table 1 of Appendix E. This list is furnished **only** as a guide to assessing relevance of proposals to NASA needs. Neither data analysis nor mission concept studies are supported under this NRA. The research categories presently supported are listed in Table 2, along with a few representative topics of specific investigations.

The total funding available for new awards under this program is approximately $1 million for fiscal year 1997. This is expected to support approximately 15 - 20 grants. There are no restrictions on the level of funding which may be requested under this program. During fiscal year 1996, 76 ongoing grants were supported in this program at a total level of approximately $4.5 million. The funds will be distributed among four

research categories according to recommendations of advisory groups, historical trends, and proposal pressure. The NASA UV, Visible, and Gravitational Astrophysics Program Working Group has set the priority of the four research categories as follows (highest to lowest):

(1) supporting ultraviolet technology studies,
(2) laboratory ultraviolet astrophysics,
(3) physics of gravitation, and
(4) ground-based astronomy

This research category must be clearly indicated on the proposal cover page.

II. PROGRAM DURATION AND PROPOSAL SCHEDULE

The UV, Visible, and Gravitational Astrophysics Research and Analysis Program is a continuing program. Current plans call for the issuance of a new NASA Research Announcement soliciting proposals for participation in this program approximately every year. Proposers are encouraged to define a program which may be accomplished in a 3-year period. It is recognized that the proposed investigation may evolve with time. Accordingly, emphasis should be placed upon the first year's effort, with as much detail as possible provided relevant to the planned second and third year's activities. Similarly, a detailed budget corresponding to the first year program is required, together with as reliable an estimate as feasible of the projected budget for the succeeding years. It should be recognized that NASA can commit financial support on a 1-year basis only. Proposals for investigations requiring less than a 3-year timescale to complete are also acceptable, as are those which require a longer timescale to complete, though the latter must undergo peer review after 3 years. Key projected milestones/ accomplishments during each period of the proposed effort should be identified.

To facilitate planning for the peer review process, individuals who intend to submit proposals in response to this solicitation, should submit a Letter of Intent by March 29, 1996 [see Appendix D, Section I. A. "Letter of Intent" for more details].

The schedule of planned activities for the present review cycle of the UV, Visible, and Gravitational Research and Analysis Program is as follows:

Letters of Intent due	March 29, 1996
Last date for **receipt** of proposals for 1995 review	June 7, 1996
Target date for Peer Review	July 1996

Target date for Notification of PI	September 1996
Initiation of Funding	January 1997

While the above dates represent NASA's intent, it should be realized that future circumstances and events could result in modifications of this schedule. Funding start dates later than January 1, 1997, may be requested if desired.

III. PROGRAM MANAGEMENT INFORMATION

The NASA UV, Visible, and Gravitational Astrophysics Research and Analysis Program is managed by the Office of Space Science, National Aeronautics and Space Administration, Washington, DC 20546. Questions regarding proposal format, evaluation procedures, or requests for further general information concerning the UV, Visible, and Gravitational Astrophysics Program should be referred to:

Dr. Hashima Hasan
Office of Space Science
Code SZ
NASA Headquarters
Washington, DC 20546-0001
Phone: (202) 358-0377
E-mail: hhasan@hq.nasa.gov

NRA APPENDIX B

INSTRUCTIONS FOR RESPONDING TO NASA RESEARCH ANNOUNCEMENTS FOR SOLICITED RESEARCH PROPOSALS

JUNE 1995

OFFICE OF PROCUREMENT
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, DC 20546

INSTRUCTIONS FOR RESPONDING TO NASA RESEARCH ANNOUNCEMENTS FOR SOLICITED RESEARCH PROPOSALS

(JUNE 1995)

1. Foreword

a. These instructions apply to "NASA Research Announcements." The "NASA Research Announcement (NRA)" permits competitive selection of research projects in accordance with statute while preserving the traditional concepts and understandings associated with NASA sponsorship of research.

b. These instructions are Appendix I to 1870.203 of the NASA Federal Acquisition Regulation Supplement.

2. Policy

a. Proposals received in response to an NRA will be used only for evaluation purposes. NASA does not allow a proposal, the contents of which are not available without restriction from another source, or any unique ideas submitted in response to an NRA to be used as the basis of a solicitation or in negotiation with other organizations, nor is a preaward synopsis published for individual proposals.

b. A solicited proposal that results in a NASA award becomes part of the record of that transaction and may be available to the public on specific request; however, information or material that NASA and the awardee mutually agree to be of a privileged nature will be held in confidence to the extent permitted by law, including the Freedom of Information Act.

3. Purpose

These instructions supplement documents identified as "NASA Research Announcements." The NRAs contain programmatic information and certain requirements which apply only to proposals prepared in response to that particular announcement. These instructions contain the general proposal preparation information which applies to responses to all NRAs.

4. Relationship To Award

a. A contract, grant, cooperative agreement, or other agreement may be used to accomplish an effort funded in response to an NRA. NASA will determine the appropriate instrument.

b. Grants are generally used to fund basic research in educational and nonprofit institutions, while research in other private sector organizations is accomplished under contract. Contracts resulting from NRAs are subject to the Federal Acquisition Regulation and the NASA FAR Supplement (NHB 5100.4). Any resultant grants or cooperative agreements will be awarded and administered in accordance with the NASA Grant and Cooperative Agreement Handbook (NHB 5800.1).

5. Conformance To Guidance

a. NASA does not have mandatory forms or formats for responses to NRAs; however, it is requested that proposals conform to the guidelines in these instructions. NASA may accept proposals without discussion; hence, proposals should initially be as complete as possible and be submitted on the proposers' most favorable terms.

b. To be considered responsive, a submission must, at a minimum, present a specific project within the areas delineated by the NRA; contain sufficient technical and cost information to permit a meaningful evaluation; be signed by an official authorized to legally bind the submitting organization; not merely offer to perform standard services or to just provide computer facilities or services; and not significantly duplicate a more specific current or pending NASA solicitation.

6. NRA-Specific Items

Several proposal submission items appear in the NRA itself: the unique NRA identifier; when to submit proposals; where to send proposals; number of copies required; and sources for more information. Items included in these instructions may be supplemented by the NRA.

7. Proposal Contents

a. The following information is needed to permit consideration in an objective manner. NRAs will generally specify topics for which additional information or greater detail is desirable. Each proposal copy shall contain all submitted material, including a copy of the transmittal letter if it contains substantive information.

b. **Transmittal Letter or Prefatory Material.**

(1) The legal name and address of the organization and specific division or campus identification if part of a larger organization;

(2) A brief, scientifically valid project title intelligible to a scientifically literate reader and suitable for use in the public press;

(3) Type of organization: e.g., profit, nonprofit, educational, small business, minority, women-owned, etc.;

(4) Name and telephone number of the principal investigator and business personnel who may be contacted during evaluation or negotiation;

(5) Identification of other organizations that are currently evaluating a proposal for the same efforts;

(6) Identification of the NRA, by number and title, to which the proposal is responding;

(7) Dollar amount requested, desired starting date, and duration of project;

(8) Date of submission; and

(9) Signature of a responsible official or authorized representative of the organization, or any other person authorized to legally bind the organization (unless the signature appears on the proposal itself).

c. **Restriction on Use and Disclosure of Proposal Information.**

Information contained in proposals is used for evaluation purposes only. Offerors or quoters should, in order to maximize protection of trade secrets or other information that is confidential or privileged, place the following notice on the title page of the proposal and specify the information subject to the notice by inserting appropriate identification, such as page numbers, in the notice. In any event, information contained in proposals will be protected to the extent permitted by law, but NASA assumes no liability for use and disclosure of information not made subject to the notice.

Notice

Restriction on Use and Disclosure of Proposal Information. The information (data) contained in [insert page numbers or other identification] of this proposal constitutes a trade secret and/or information that is commercial or financial and confidential or privileged. It is furnished to the Government in confidence with the understanding that it will not, without permission of the offeror, be used or disclosed other than for evaluation purposes; provided, however, that in the event a contract (or other

agreement) is awarded on the basis of this proposal the Government shall have the right to use and disclose this information (data) to the extent provided in the contract (or other agreement). This restriction does not limit the Government's right to use or disclose this information (data) if obtained from another source without restriction.

d. **Abstract.**

Include a concise (200-300 word if not otherwise specified in the NRA) abstract describing the objective and the method of approach.

e. **Project Description.**

(1) The main body of the proposal shall be a detailed statement of the work to be undertaken and should include objectives and expected significance; relation to the present state of knowledge; and relation to previous work done on the project and to related work in progress elsewhere. The statement should outline the plan of work, including the broad design of experiments to be undertaken and a description of experimental methods and procedures. The project description should address the evaluation factors in these instructions and any specific factors in the NRA. Any substantial collaboration with individuals not referred to in the budget or use of consultants should be described. Subcontracting significant portions of a research project is discouraged.

(2) When it is expected that the effort will require more than one year, the proposal should cover the complete project to the extent that it can be reasonably anticipated. Principal emphasis should be on the first year of work, and the description should distinguish clearly between the first year's work and work planned for subsequent years.

f. **Management Approach.**

For large or complex efforts involving interactions among numerous individuals or other organizations, plans for distribution of responsibilities and arrangements for ensuring a coordinated effort should be described. Intensive working relations with NASA field centers that are not logical inclusions elsewhere in the proposal should be described.

g. **Personnel.**

The principal investigator is responsible for supervision of the work and participates in the conduct of the research regardless of whether or not compensated under the award. A short biographical sketch of the principal investigator, a list of principal publications and any exceptional qualifications should be included. Omit social security number and other personal items which do not merit consideration in evaluation of the proposal. Give similar biographical information on other senior professional personnel who will be directly associated with the project. Give the names and titles of any other scientists and technical personnel associated

substantially with the project in an advisory capacity. Universities should list the approximate number of students or other assistants, together with information as to their level of academic attainment. Any special industry-university cooperative arrangements should be described.

h. **Facilities and Equipment.**

(1) Describe available facilities and major items of equipment especially adapted or suited to the proposed project, and any additional major equipment that will be required. Identify any Government-owned facilities, industrial plant equipment, or special tooling that are proposed for use.

(2) Before requesting a major item of capital equipment, the proposer should determine if sharing or loan of equipment already within the organization is a feasible alternative. Where such arrangements cannot be made, the proposal should so state. The need for items that typically can be used for research and non-research purposes should be explained.

i. **Proposed Costs.**

(1) Proposals should contain cost and technical parts in one volume: do not use separate "confidential" salary pages. As applicable, include separate cost estimates for salaries and wages; fringe benefits; equipment; expendable materials and supplies; services; domestic and foreign travel; ADP expenses; publication or page charges; consultants; subcontracts; other miscellaneous identifiable direct costs; and indirect costs. List salaries and wages in appropriate organizational categories (e.g., principal investigator, other scientific and engineering professionals, graduate students, research assistants, and technicians and other non-professional personnel). Estimate all manpower data in terms of man-months or fractions of full-time.

(2) Explanatory notes should accompany the cost proposal to provide identification and estimated cost of major capital equipment items to be acquired; purpose and estimated number and lengths of trips planned; basis for indirect cost computation (including date of most recent negotiation and cognizant agency); and clarification of other items in the cost proposal that are not self-evident. List estimated expenses as yearly requirements by major work phases. (Standard Form 1411 may be used).

(3) Allowable costs are governed by FAR Part 31 and the NASA FAR Supplement Part 1831 (and OMB Circulars A-21 for educational institutions and A-122 for nonprofit organizations).

j. **Security.**

Proposals should not contain security classified material. If the research requires access to or may generate security classified information, the submitter will be required to comply with Government security regulations.

k. **Current Support.**

For other current projects being conducted by the principal investigator, provide title of project, sponsoring agency, and ending date.

l. **Special Matters.**

(1) Include any required statements of environmental impact of the research, human subject or animal care provisions, conflict of interest, or on such other topics as may be required by the nature of the effort and current statutes, executive orders, or other current Government-wide guidelines.

(2) Proposers should include a brief description of the organization, its facilities, and previous work experience in the field of the proposal. Identify the cognizant Government audit agency, inspection agency, and administrative contracting officer, when applicable.

8. Renewal Proposals

a. Renewal proposals for existing awards will be considered in the same manner as proposals for new endeavors. A renewal proposal should not repeat all of the information that was in the original proposal. The renewal proposal should refer to its predecessor, update the parts that are no longer current, and indicate what elements of the research are expected to be covered during the period for which support is desired. A description of any significant findings since the most recent progress report should be included. The renewal proposal should treat, in reasonable detail, the plans for the next period, contain a cost estimate, and otherwise adhere to these instructions.

b. NASA may renew an effort either through amendment of an existing contract or by a new award.

9. Length

Unless otherwise specified in the NRA, effort should be made to keep proposals as brief as possible, concentrating on substantive material. Few proposals need exceed 15-20 pages. Necessary detailed information, such as reprints, should be included as attachments. A complete set of attachments is necessary for each copy of the proposal. As proposals are not returned, avoid use of "one-of-a-kind" attachments: their availability may be mentioned in the proposal.

10. Joint Proposals

a. Where multiple organizations are involved, the proposal may be submitted by only one of them. It should clearly describe the role to be played by the other

organizations and indicate the legal and managerial arrangements contemplated. In other instances, simultaneous submission of related proposals from each organization might be appropriate, in which case parallel awards would be made.

b. Where a project of a cooperative nature with NASA is contemplated, describe the contributions expected from any participating NASA investigator and agency facilities or equipment which may be required. The proposal must be confined only to that which the proposing organization can commit itself. "Joint" proposals which specify the internal arrangements NASA will actually make are not acceptable as a means of establishing an agency commitment.

11. Late Proposals

A proposal or modification received after the date or dates specified in an NRA may be considered if the selecting official deems it to offer NASA a significant technical advantage or cost reduction.

12. Withdrawal

Proposals may be withdrawn by the proposer at any time. Offerors are requested to notify NASA if the proposal is funded by another organization or of other changed circumstances which dictate termination of evaluation.

13. Evaluation Factors

a. Unless otherwise specified in the NRA, the principal elements (of approximately equal weight) considered in evaluating a proposal are its relevance to NASA's objectives, intrinsic merit, and cost.

b. Evaluation of a proposal's relevance to NASA's objectives includes the consideration of the potential contribution of the effort to NASA's mission.

c. Evaluation of its intrinsic merit includes the consideration of the following factors, none of which is more important than any other:

(1) Overall scientific or technical merit of the proposal or unique and innovative methods, approaches, or concepts demonstrated by the proposal.

(2) Offeror's capabilities, related experience, facilities, techniques, or unique combinations of these which are integral factors for achieving the proposal objectives.

(3) The qualifications, capabilities, and experience of the proposed principal investigator, team leader, or key personnel critical in achieving the proposal objectives.

(4) Overall standing among similar proposals and/or evaluation against the state-of-the-art.

d. Evaluation of the cost of a proposed effort includes the realism and reasonableness of the proposed cost and available funds.

14. Evaluation Techniques

Selection decisions will be made following peer and/or scientific review of the proposals. Several evaluation techniques are regularly used within NASA. In all cases proposals are subject to scientific review by discipline specialists in the area of the proposal. Some proposals are reviewed entirely in-house, others are evaluated by a combination of in-house and selected external reviewers, while yet others are subject to the full external peer review technique (with due regard for conflict-of-interest and protection of proposal information), such as by mail or through assembled panels. The final decisions are made by a NASA selecting official. A proposal which is scientifically and programmatically meritorious, but not selected for award during its initial review, may be included in subsequent reviews unless the proposer requests otherwise.

15. Selection for Award

a. When a proposal is not selected for award, and the proposer has indicated that the proposal is not to be held for subsequent reviews, the proposer will be notified. NASA will explain generally why the proposal was not selected. Proposers desiring additional information may contact the selecting official who will arrange a debriefing.

b. When a proposal is selected for award, negotiation and award will be handled by the procurement office in the funding installation. The proposal is used as the basis for negotiation. The contracting officer may request certain business data and may forward a model contract and other information which will be of use during the contract negotiation.

16. Cancellation of NRA

NASA reserves the right to make no awards under this NRA and to cancel this NRA. NASA assumes no liability for cancelling the NRA or for anyone's failure to receive actual notice of cancellation. Cancellation may be followed by issuance and synopsis of a revised NRA, since amendment of an NRA is normally not permitted.

GUIDELINES FOR PREPARATION OF PROPOSAL COST SUMMARIES

I. PROPOSAL COSTING DETAIL

Sufficient proposal cost detail and supporting information will facilitate a timely evaluation and award for selected proposals. Dollar amounts proposed with no explanation (eg., Equipment: $58,000 or Labor: $110,000) may cause delays in proposal evaluation and grant award. Costs should be itemized using the Budget Forms contained in Appendix E.

The proposed costing information should be sufficiently detailed to allow the Government to identify costed elements for evaluation purposes. Each budget category should be explained. Offerors should exercise prudent judgment regarding the amount of detail necessary depending upon the complexity of the proposal. Where applicable, the cost section should include a breakdown by year and a total for all periods. While it is not mandatory that cost proposals conform exactly to these guidelines, information supplied at the level of detail shown in Section II will expedite the processing of the grant procurements for selected proposals.

II. EXAMPLES

The number and nature of the appropriate cost categories will vary with the particular plan for each proposed investigation. Examples of the level of detail requested for typical categories are provided below.

A. Direct Labor

Labor costs should be segregated by titles or disciplines with estimated hours and rates for each. Estimates should include a basis of estimate such as currently paid rates or outstanding offers to prospective employees. This format allows the Government to assess cost reasonableness by various means including comparison to similar skills at other organizations. Example:

	Months	*Rate*	*Amount*
Principal Investigator	6.0	$4500	$27,000
Post-Doc	1.5	$3050	$ 4,575
Clerical Support	0.5	$2400	$ 1,200
Total	8.0		$32,775

B. Travel Costs

Costs in this category should be provided as shown in the following example:

# trips	*Destination*	*Duration*	*Air Fare*	*Per Diem*	*Total*
2	Australia	6 days	$1,234	$750	$3,968
1	Boston, MA	4 days	$ 800	$600	$1,400
Total					$5,368

C. Equipment Purchases

Costs in this category should be provided at the level of detail reflected in the following example:

Units	*Item*	*Cost*	*Total*
4	Pulse Height Analyzer	$4,399	$17,596

D. Indirect Costs

Indirect costs should be explained to an extent that will allow the Government to understand the basis for the estimate. Examples of prior year historical rates, current variances from those rates, or an explanation of other basis of estimates should be included.

Where costs are based on allocation percentages or dollar rates, an explanation of rate and application base relationships should be given. For example, the base to which the General and Administrative (G&A) rate is applied should be explained as: application base equals total costs before G&A less subcontracts.

E. Other Costs

Other applicable cost categories include purchase of expendable materials, computer services, communications costs, and publication expenses. The appropriate level of detail should be provided in each case.

ADDITIONAL INFORMATION REGARDING PROPOSAL SUBMISSION, EVALUATION, SELECTION, AND IMPLEMENTATION

The information contained in Appendix D augments/supersedes Appendix B and is applicable only to NRA 96-OSS-04.

I. PROPOSAL PREPARATION AND SUBMISSION

A. Letter of Intent to Propose

To facilitate planning for the proposal evaluation process and the timely selection of a scientific peer review panel, investigators intending to submit proposals for participation in this program should notify NASA by March 29, 1996. A one-page letter of intent containing the name and affiliation of the Principal Investigator and all Co-Investigators should be sent preferably electronically to:

Dr. Hashima Hasan
Office of Space Science
Code SZ
National Aeronautics and Space Administration
Washington, DC 20546-0001.
E-mail: hhasan@hq.nasa.gov

The letter should summarize the primary research areas and objectives of the proposed investigation.

B. Proposal Preparation Procedures

A uniform proposal format is recommended to aid in proposal evaluation.

1. Proposals should contain a scientific and technical (as appropriate) description of the investigation. Special attention should be paid to the selection criteria detailed in the next section (Appendix D, Section II) and they should be clearly addressed in your proposal.

   To aid in multiyear funding when NASA is only able to budget one year at a time, proposal cost plans should be "front-loaded". This means the budgets for years two and three should be

approximately equal to the first year's request, or large expenditures should be placed in the first year, with declining budgets for years two and three (this is not a requirement, but it may not be possible to accommodate large increases in years subsequent to the first year).

2. Investigators presently supported under this program should specifically include a discussion of past grant-related performance, NASA grants won, and publications resulting from them. Include a **complete** listing of all awarded or requested research funding support from NASA or other sources for related projects by the Principal Investigator and by all co-investigators requesting financial support.

3. The proposal should consist of:

   - Two Cover Pages (including an abstract) from Appendix E
   - Science Proposal (**no longer than 15 pages including figures, tables, and references**)
   - Short vita for the PI plus selected bibliography
   - A listing of all current and pending NASA and NSF grants
   - Budget
   - Institutional Certifications

   NOTE: NASA reserves the right not to review proposals that exceed the page limit. In such a case the proposal will be returned to the principal investigator without being reviewed. Use a type-face no smaller than 10 point, with 1-inch margins on all sides and single-spaced lines.

4. Do **not** include reprints or preprints – where appropriate, work should be summarized or referenced in the body of the proposal.

C. Proposal Submission Information

Fifteen (15) copies of each proposal should be **received** at the following address no later than 5:00 p.m. EDT, June 7, 1996:

Astrophysics Support Program
UV, Visible, and Gravitational Astrophysics
Research and Analysis Program
400 Virginia Avenue, Suite 700
Washington, DC 20024

D. Foreign Investigations

Non-U.S. proposers should not include a cost plan. Non-U.S. proposals and U.S. proposals which include non-U.S. participation must be endorsed by the respective government agency or funding/sponsoring institution in that country from which the non-U.S. participant is proposing. Such endorsement should indicate:

1. The proposal merits careful consideration by NASA; and

2. If the proposal is selected, sufficient funds will be made available to undertake the activity proposed.

One copy of each proposal and the letters of endorsement should be forwarded to the NASA International Relations Division. These documents should be sent to:

Ms. Shiron Gaines
International Relations Division
Code IR
NRA 96-OSS-04
NASA Headquarters
Washington, DC 20546-0001 USA

The required number of copies of the proposal (15) are to be forwarded to :

Astrophysics Support Program
UV, Visible, and Gravitational Astrophysics
Research and Analysis Program
400 Virginia Avenue, Suite 700
Washington, DC 20024 U.S.A.

All proposals must be typewritten in English. All non-U.S. proposals will undergo the same evaluation and selection process as those originating in the U.S. Non-U.S. proposals and U.S. proposals which include foreign participation must follow all other guidelines and requirements described in this NRA.

All proposals must be received before the established closing date; those received after the closing date will be treated in accordance with NASA's provisions for late proposals. Sponsoring non-U.S. agencies may, in exceptional situations, forward a proposal without endorsement to the above address if review and endorsement is not possible before the announced closing date. In such cases, however, NASA's International Relations Division should be advised when a decision on endorsement can be expected.

Successful and unsuccessful proposers will be contacted directly by the NASA Program Office coordinating the NRA. Copies of these letters will be sent to the sponsoring agency.

Should a non-U.S. proposal or a U.S. proposal with non-U.S. participation be selected, the NASA International Relations Division will arrange with the non-U.S. sponsoring agency for the proposed participation on a no-exchange-of-funds basis, in which NASA and the non-U.S. sponsoring agency will each bear the cost of discharging its respective responsibilities. Depending on the nature and extent of the proposed cooperation, these arrangements may entail:

1. A letter of notification by NASA; and/or

2. An exchange of letters between NASA and the sponsoring governmental agency.

II. PROPOSAL SELECTION

A. Evaluation and Selection Procedures

The scientific and technical merits of proposals will be evaluated by a scientific peer review panel which will make recommendations to NASA. There will be one subpanel for each of the four research categories. The proposals and peer panel recommendations will then be considered by the Branch Chief in the context of the overall funding availability and programmatic needs. Final selection will be made by the Director, Astrophysics Division, Office of Space Science.

B. Evaluation Criteria

The following specific evaluation criteria are listed in descending order of importance and will be used in evaluating proposals for investigations within this program. Proposals will be graded in each category by the peer review panels. Explicitly addressing each category in proposals will aid their evaluation.

(NOTE: These criteria supersede those cited in Appendix B.)

1. The overall scientific and technical merit of the investigation

2. The relevance of the proposed research to the NASA Ultraviolet, Visible, and Gravitational Astrophysics Program

3. The technical feasibility of accomplishing the stated scientific goals

4. The competence and relevant experience of the investigators and likelihood of timely publication of results in peer reviewed journals

5. Whether the budget is realistic and reasonable for the proposed research

6. For technology studies, the potential for successful transfer of newly developed technology to secondary applications, including commercial applications, in other areas

These criteria will be followed by the review panel and provide guidance to the proposer. Based on all the criteria, peer review panels will arrive at a consensus evaluation and an overall score based on the content of the proposal.

NASA may desire to select only a portion of a proposer's investigation, in which case, the investigator will be given the opportunity to accept or decline such partial acceptance.

C. Implementation

Individuals responding to this Announcement will be notified of the outcome of the proposal selection process by the Chief, Ultraviolet, Visible, and Gravitational Astrophysics Branch. It is currently expected that official notifications of acceptance or rejection will be made in September 1996, at which time, in the case of those investigations recommended for selection, discussions of the specific terms under which the investigation is to be implemented will be initiated.

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Appendix E

COVER PAGE - Part 1

Proposal for Ultraviolet, Visible, and Gravitational Astrophysics Research and Analysis Program

NRA 96OSS-04

PRINCIPAL INVESTIGATOR(S)

Title *First Name* *Middle Name* *Last Name*

PROPOSAL TITLE

RESEARCH CATEGORY *(check one)*

☐ 1. Supporting UV Technology ☐ 2. Laboratory Astrophysics

☐ 3. Relativity & Gravitation ☐ 4. Ground-Based Astronomy

INSTITUTION

DEPARTMENT

STREET ADDRESS CITY/TOWN

STATE/COUNTY ZIP/POSTAL CODE COUNTRY

TELEPHONE FAX E-MAIL ADDRESS

ABSTRACT (800 CHARACTERS MAXIMUM INCLUDING SPACES, ~ 150 WORDS)

Appendix E

COVER PAGE - Part 2

Proposal for Ultraviolet, Visible, and Gravitational Astrophysics Research and Analysis Program

NRA 96-OSS-04

PRINCIPAL INVESTIGATOR(S)			
Title	*First Name*	*Middle Name*	*Last Name*
PROPOSAL TITLE			

CO-INVESTIGATOR(S) NAME	INSTITUTION

INSTITUTIONAL ENDORSEMENT
Name of Official
ADMINISTRATIVE AUTHORITY
INSTITUTION
SIGNATURE DATE

BUDGET SUMMARY:	*YEAR 1*	*YEAR 2*	*YEAR 3*
TOTAL AMOUNT REQUESTED:			

UV/VIS/GRAV RESEARCH & ANALYSIS PROGRAM

FY 19___ NRA 96-OSS-04

Principal Investigator	Institution

A. Salaries of Senior Personnel at PI Institution	Monthly or Hourly Rate	No. of Months	Funds
1. PI			$
2. Co-I			
3. Co-I			
4. Co-I			
Other (TOTAL FROM SHEET 2)			
B. Salaries or Wages, Other Personnel (show numbers in parentheses)			
1. ( ) Post Doctoral Associates			
2. ( ) Other Professionals (Technicians, Programmers, etc.)			
3. ( ) Graduate Students			
4. ( ) Undergraduate Students			
5. ( ) Clerical			
6. ( ) Other (TOTAL FROM SHEET 2)			
		TOTAL SALARIES	
C. Fringe Benefits (if charged as direct costs; specify)	% Rate	Base	
		TOTAL FROM SHEET 2	
		TOTAL FRINGE	
SUB-TOTAL: Salaries, Wages & Fringe Benefits (A+B+C)			$
D. EQUIPMENT (itemize here and Sheet 2)			
		TOTAL FROM SHEET 2	
SUB-TOTAL: Equipment Cost			$
E. Total Travel, Domestic (inc Canada, U.S. Possessions)		TOTAL FROM SHEET 2	
Total Travel, Foreign		TOTAL FROM SHEET 2	
SUB-TOTAL: All Travel			$
F. Other Direct Cost (Itemize on Sheet 2)			
1. Materials and Supplies			
2. Publication Costs (rate/page x no. of pages)			
3. Institutional Computer Services (rate/hr)			
4. Subgrants/Contracts with Co-I's at other institutions (Itemize on Sheet 2)			
5. Other (specify)			
SUB-TOTAL: Other Direct Cost			$
G. TOTAL - All Direct Cost (A through F)			$
H. Indirect Cost (specify) Itemize on Sheet 2			
		TOTAL INDIRECT	$
I. TOTAL FY REQUEST (G+H)			
		TOTAL REQUEST	$

Cognizant Institutional Officer (Name & Signature)

BUDGET FORM (Sheet 2)

For Itemization of Categories A-H for FY 19___ NRA 96-OSS-04

A. Additional Senior Salaries	
TOTAL SENIOR SALARIES	$
B. Additional Other Wages/Salaries	
TOTAL OTHER WAGES	$
C. Additional Fringe Benefits	
TOTAL FRINGE	$
D. Additional Equipment (itemize)	
TOTAL EQUIPMENT	$
E. Travel (itemize)	
DOMESTIC	
TOTAL DOMESTIC TRAVEL	$
FOREIGN	
TOTAL FOREIGN TRAVEL	$
F. Other Direct Costs	
TOTAL OTHER DIRECT	$
H. Other Indirect Costs	
TOTAL OTHER INDIRECT	$

TRANSFER TOTALS TO MAIN BUDGET FORM FOR FY 19___

Certification Regarding Drug-Free Workplace Requirements
Grantees Other Than Individuals

This certification is required by the regulations implementing the Drug-Free Workplace Act of 1988, 34 CFR Part 85, Subpart F. The regulations, published in the January 31, 1989 Federal Register, require certification by grantees, prior to award, that they will maintain a drug-free workplace. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to award the grant. False certification or violation of the certification shall be grounds for suspension of payments, suspension or termination of grants, or governmentwide suspension or debarment (see 34 CFR Part 85, Sections 85.615 and 85.620).

This grantee certifies that it will provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing a drug-free awareness program to inform employees about -

(1) The dangers of drug abuse in the workplace;
(2) The grantee's policy of maintaining a drug-free workplace;
(3) Any available drug counseling, rehabilitation, and employee assistance programs, and
(4) The penalties that may be imposed upon employees for drug abuse violations in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will -

(1) Abide by the terms of the statement; and
(2) Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction;

(e) Notifying the agency within ten days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction;

(f) Taking one of the following actions, within 30 days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted -

(1) Taking appropriate personnel action against such an employee, up to and including termination; or
(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraph (a), (b), (c), (d), and (f).

Organization Name

PR/Award Number or Proposal Name

Name and Title of Authorized Representative

Signature

Date

Certification Regarding
Debarment, Suspension, and Other Responsibility Matters
Primary Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 34 CFR Part 85, Section 85.510, Participant's responsibilities. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160-19211).

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statues or commission of embezzlement theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Organization Name | PR/Award Number or Proposal Name

Name and Title of Authorized Representative

Signature | Date

Certification Regarding Lobbying

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000, and not more than $100,000 for each such failure.

Signature and Date

Name and Title of Authorized Representative

Organization Name

PR/Award Number or Proposal Name

Table 1 - Missions Relevant to UV, Visible, & Gravitational Astrophysics Research and Analysis

Details provided in the 1995 Flight Project Data Book, Office of Space Science, NASA Headquarters.

Mission	Launch Year	Remarks
International Ultraviolet Explorer (IUE)	1978	In operation, 1200 – 3200Å
Hipparcos	1989	ESA mission, astrometry
Hubble Space Telescope (HST)	1990	In operation
Goddard High Resolution Spectrograph (GHRS)		
Faint Object Camera (FOC)		In operation
Faint Object Spectrograph (FOS)		In operation
Wide Field/Planetary Camera 2 (WF/PC2)		In operation
Astro-1	1990	Completed 9 day mission;
Astro-2	1995	Completed 16 day mission with Guest Observer program
Hopkins Ultraviolet Telescope (HUT)		400 – 3000 Å
Ultraviolet Imaging Telescope (UIT)		
Wisconsin Ultraviolet Photopolarimeter Experiment (WUPPE)		
Extreme Ultraviolet Explorer (EUVE)	1992	In operation, Guest Observer program, 80 – 800Å
Orbiting and Retrievable Far and Extreme Ultraviolet Spectrometer (ORFEUS)/Interstellar Medium Absorption Profile Spectrograph(IMAPS)	1993 1996	Completed 5 day mission; planned re-flight, 400 – 1200Å
On-going tests of relativity	—	Various current interplanetary spacecraft
HST Space Telescope Imaging Spectrograph (STIS)	1997	HST replacement instrument
Far Ultraviolet Spectroscopic Explorer (FUSE)	1998	3 year mission, 800 – 1200Å
HST Advanced Camera for Exploration (ACE)	1999	HST replacement instrument
Gravity Probe-B (GP-B)	2000	2 year mission, Lense-Thirring Effect
Space Interferometry Mission(SIM)	TBD	Selected for study

Currently under study as New Mission Concepts:

Orbiting Stellar Interferometer

Iris: A Tuneable, Wide-Field, High Resolution Ultraviolet Imaging Mission

Precise Photometry Mission

POINTS, the Precision Optical INTerferometer in Space

Separated Spacecraft Interferometry

Dark Matter Mission

Minimal Optic Echelle Spectrometer (MOES)

Cosmological Helium Isotope EUV Feature Spectrometer (CHIEFS)

An Advanced Technology Lunar Precursor Telescope

Table 2 - CURRENT UV, VISIBLE, AND GRAVITATIONAL ASTROPHYSICS RESEARCH AND ANALYSIS CATEGORIES AND EXAMPLE TOPICS

Category	Sub Program	Example Research Topics
1	Supporting Technology Studies	• UV Photocathodes • Ultra-light Holographic Grating Development • Thin films in the EUV • Lightweight Composite Mirrors
2	Laboratory Astrophysics	• Predissociation in diatomic molecules • Electron-ion collisions • Compilation of transition probability data • Measurement of absolute oscillator strengths for UV transitions • UV Characteristics of PAH's
3	General Relativity and Physics of Gravitation	• Lunar-laser ranging tests of relativity • Solar-system tests of gravitational theories using satellite data • Low-frequency gravitational wave astronomy
4	Ground-based astronomy	• Optical imaging and spectroscopy of UIT fields • Calibration of Supergiants for HST

NASA Research Announcement (NRA)/Announcement of Opportunity (AO) Mailing List Update

If your current address is NOT up-to-date, please fill out this form completely.

This is the update form for the NASA Office of Space Sciences (OSS) NRA/AO mailing list. Please fill out CONTACT INFORMATION completely. Check only those that apply in Institution Type and Discipline. Fold the form, secure with tape, and mail it back to the address on the reverse side. Proper postage must be applied.

MUST CHECK ONE
Please check which announcements you would like to receive:

- ☐ 1. NASA Research Announcements (basic, non-flight, on-going research)
- ☐ 2. Announcements of Opportunity (specific space flight mission)

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- ☐ 3. Please ***update*** my current listing.

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Division / Department:
Street:
City: State: Zip:
Telephone No: Fax No:
E-Mail Address: Internet Address:
Country: (foreign addresses, please specify)

Institution Type
(check only those that apply)

- ☐ 1. College or University
- ☐ 2. Minority College or University
- ☐ 3. Foreign Addressee
- ☐ 4. Minority Business
- ☐ 5. NASA HQs/Center
- ☐ 6. Nonprofit Corporation
- ☐ 7. Other Government Agency
- ☐ 8. Private Industry
- ☐ 9. Small Business

Societies:

- ☐ A. American Astronomical Society
- ☐ B. American Geophysical Union
- ☐ C. Others _____

Discipline:
(check only those that apply) **(MUST CHECK AT LEAST ONE)**

1. Astronomy and Astrophysics

- ☐ A. Theory and Modeling
- ☐ B. Instrumentation (Technology Dev)
- ☐ C. Laboratory Astrophysics
- ☐ D. Data Analysis (Archival)
- ☐ E. Observational Programs

2. Solar System Exploration

- ☐ A. Planetary Atmospheres and Astronomy
- ☐ B. Planetary Materials and Geochemistry
- ☐ C. Planetary Geology and Geophysics
- ☐ D. Instrument Development
- ☐ E. Origins of Solar Systems
- ☐ F. Exobiology

3. Space Physics

- ☐ A. Cosmic and Heliosphere Physics
- ☐ B. Solar Physics
- ☐ C. Magnetospheric Physics
- ☐ D. Iono-Thermo-Mesospheric Physics

4. Information Systems/Computer Science

- ☐ A. High Performance Computing and Networking
- ☐ B. Scientific Data Analysis and Visualization
- ☐ C. Science Data Storage and Management
- ☐ D. Software Technology

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